Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte NORIYOSHI SATO and SHINICHI TERAO

Appeal No. 2000-2139
Application No. 08/938,704

HEARD: April 26, 2001

Before CALVERT, COHEN and STAAB, Administrative Patent Judges

CALVERT, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 9, 11 and 12, all the claims remaining in the application.

The claims on appeal are drawn to an electromagnetic isolation apparatus for an electronic device; the particular device discussed in detail in the specification is a portable (cordless) telephone. Claims 9, 11 and 12 are reproduced in the appendix of appellants' brief.

The references applied in the final rejection are:

Beutler	4,890,199	Dec. 26, 1989
Mendolia et al. (Mendolia)	5,717,577 (filed Oct. 30, 1996)	Feb. 10, 1998
Ito et al. (Ito) (Japanese Application)	JP 08-222881	Aug. 30, 1996[1]

The admitted prior art shown in Fig. 5 of appellants' application and described at page 1, line 12 to page 3, line 5. (APA)

The claims on appeal stand finally rejected under 35 U.S.C. 103(a) as unpatentable over the following combinations of references:

(1) Claim 9, Beutler in view of Mendolia and the APA.

(2) Claims 11 and 12, Beutler in view of Mendolia, the APA, and Ito.

First considering Beutler's disclosure in relation to claim 9, Beutler discloses an electronic device (portable telephone) having a casing 201 containing a circuit board 205,

[1]Although this reference (referred to as "Obayashi Katsuki") is utilized in rejecting claims 11 and 12, it is not listed on page 3 of the examiner's answer. A translation of the reference, prepared by the USPTO, is enclosed.

a first shield case 211 covering a portion of one surface of the circuit board, and a second shield case 203 covering a portion of the other surface of the circuit board. The second shield case
203 is integral with the casing. The first and second shield

cases 211, 203 each engage spring channels 207, 209 which are soldered to the circuit board and have opposing spring fingers 301, 303 between which the walls of the shields 211, 203 are inserted to make a ground connection with the board (col. 3, lines 1 to 10). This allows the shields to be easily removable from the board (col. 2, lines 60 to 63; col. 3, line 68 to
col. 4, line 3).

Mendolia discloses an electronic device (e.g., a cellular telephone) having a printed circuit board 100, part of the board being shielded by shield can 210. In Fig. 2F, a stand-off 350 of spongy material is provided between the casing 170 and the top of the shield can, whereby "[t]he stand-off 350 provides sufficient pressure between the rear housing 170, the shield can 210, and the printed circuit board 100 to hold the

shield can 210 against the printed circuit board 100" (col. 4, lines 32 to 35).

In the APA, the appellants disclose that in the prior art it is known to provide grounding terminals 6 in the form of elastically deformable conductive strips 7 between the radio circuit substrate 4 and the shield case 1 of, e.g., a portable telephone, to connect the shield case 1 to the grounding conductor 5 on the substrate 4 (page 1, line 25 to page 2, line 3).

The examiner takes the position that it would have been obvious to one of ordinary skill in the art

> [a] to include an elastic member between the inner wall of the casing and a surface of the first or second shield case of the Beutler apparatus because the elastic member will improve the rigidity of the apparatus and also provide a tighter electromagnetic seal. This would have been obvious since Mendolia (column 4, lines 30+)teaches that the elastic member produces elastic pressure urging both first and second shield cases to engage tightly with the surface of the printed board to provide grounding to the apparatus.

and

> [b] to replace the springs in the Beutler and Mendolia et al[2] apparatus with those of the prior

[2] It appears that "Mendolia et al." was included by error here.

> art, fig.5 of the application because the springs of the prior art [APA], fig.5 take less space on the printed circuit board and also provide an elastic pressure to the first and second shield cases. This would have been obvious since the elastic pressure of the spring member not only ensures good ground contact of the first and second shield cases, but also acts as shock absorbers [sic] in cases where the apparatus is subjected to vibration. [answer, page 5]

After fully considering the record in light of the arguments presented in appellants' brief and reply brief, and in the examiner's answer, we consider that the rejection is not well taken. While we agree with the examiner's conclusion [a], that it would have been obvious in view of Mendolia to interpose an elastic member between the first shield 211[3] and the casing 201 of Beutler in order to urge the shield more tightly into engagement with the circuit board 205, we do not agree with conclusion [b], that it would have been obvious to replace Beutler's spring channels 207, 209 with the spring members 7 of the APA. The problem with the latter conclusion is that the spring fingers which make up Beutler's spring

[3] The elastic member of Mendolia could not be used with Beutler's second shield 203, since that shield is integral with the casing.

channels 207, 209 exert at most a minimal pressure on the shield 211 perpendicular to the circuit board 205. Rather, as shown in Fig. 4, they are spaced apart at their narrowest spacing a distance less than the thickness of the shield, so that they will exert pressure on the shield wall 401 when it is inserted between them, i.e., a pressure parallel to the circuit board, thereby releasably holding the shield in position. Since the spring members 7 of the APA do not perform any such function, and exert a pressure perpendicular to the circuit board, we do not consider that the APA's disclosure of such spring members 7 would have taught or motivated one of ordinary skill in the art to substitute such spring members for the spring channels of Beutler. While Beutler's spring fingers and the spring members 7 of the APA are both "springs", their function and operation is so different that the substitution of one for the other would not have been suggested by the prior art.

The Ito reference does not supply the above discussed deficiency in the combination of Beutler, Mendolia and the APA.

Accordingly, the rejections of claims 9, 11 and 12 will

not be sustained.

Conclusion

The examiner's decision to reject claims 9, 11 and 12 is reversed.

REVERSED

IAN A. CALVERT Administrative Patent Judge	)	
IRWIN CHARLES COHEN Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
LAWRENCE J. STAAB Administrative Patent Judge	)	

iac/vsh

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